AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) X-radiation imagery device comprising at least one detection matrix made of a semiconducting ~~material comprising~~ material, said detection matrix comprising:

pixels to convert incident X-photons into electric charges; ~~charges and~~

an electric charges reading panel including a plurality of ~~comprising several~~ electronic devices, each electronic device being integrated by pixel, the electric charges reading panel being a monocrystalline silicon panel; and ~~pixel, characterized in that each detecting matrix includes~~

a detection layer made of a continuous layer of semiconducting material deposited in vapour phase on the electric charges reading panel.

2. (Currently Amended) Process for making an X-radiation imagery device comprising at least one detection ~~detecting~~ matrix made of a semiconducting material, said detection matrix comprising pixels to convert incident X-photons into electric charges, and an electric charges reading panel including a plurality of ~~comprising several~~ electronic devices, each electronic device being integrated by pixel, wherein ~~characterized in that~~ each detection ~~detecting~~ matrix is obtained by vapour phase deposition of a semiconductor on the electric charges reading panel, each detecting matrix including a detection layer made of a continuous layer of semiconducting material

formed on the electric charges reading panel, the electric charges reading panel being a monocrystalline silicon panel.

3. (Previously Presented) Process according to claim 2, in which the evaporation properties of this semiconductor are such that the deposition can be done at a temperature lower than a temperature that damages the electronic devices.

4. (Original) Process according to claim 2, in which the semiconducting material used to make the matrix of detection pixels is CdTe, HgI_2 or PbI_2.

5. (Previously Presented) Process according to claim 2, in which electronic devices made using a process technology having a feature device size of 1.25 μm are used.

6. (Previously Presented) Process according to claim 2, in which electronic devices made using a process technology having a feature device size of 0.1 μm are used.

7. (Currently Amended) X-radiation imagery device according to claim 1, wherein ~~further characterized in that~~ the detection layer is deposited directly on the electronic devices of the electric charges reading panel in each pixel.

8. (Currently Amended) X-radiation imagery device according to claim 1, wherein ~~further characterized in that~~ the semiconducting material of the detection layer is crystalline silicon.

9. (New) X-radiation imagery device according to claim 1, wherein each of said electronic devices comprising at least one of:

an amplifier;

a preamplifier;

a filter; and

a processing circuit.

10. (New) X-radiation imagery device according to claim 9, wherein said processing circuit includes at lease one of:

a reading circuit;

an integration circuit; and

a counting circuit.

11. (New) Method for making an X-radiation imagery device comprising at least one detection matrix made of a semiconducting material, said detection matrix comprising pixels to convert incident X-photons into electric charges, and an electric charges reading panel including a plurality of electronic devices, each electronic device being integrated by pixel, said method comprising:

forming the electronic devices on a monocrystalline silicon substrate to produce the electric charges reading panel of each detection matrix; and

vapour-phase depositing the semiconducting material on the electric charges reading panel so as to form a detection layer made of a continuous layer of the semiconducting material.

12. (New) The method in accordance with claim 11, wherein said vapour-phase depositing comprises:

controlling a temperature of the deposition so as not to damage the electronic devices of the electric charges reading panel mad of monocrystalline silicon.

13. (New) The method in accordance with claim 11, further comprising:

assembling more than one detection matrices to form a large area digital detector.